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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,834	01/08/2004	Patrick Chretien	14XZ125897	6806
23413	7590	05/16/2005	EXAMINER	
CANTOR COLBURN, LLP			SUCHECKI, KRISTYNA	
55 GRIFFIN ROAD SOUTH			ART UNIT	
BLOOMFIELD, CT 06002			PAPER NUMBER	

2882

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/753,834

**Applicant(s)**

CHRETIEN, PATRICK

**Examiner**

Krystyna Suchecki

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/08/04</u> | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Objections*

12 and 13

1. Claims 1, 4 objected to because of the following informalities: Claims 1, 12 and 13 lack proper antecedence for “the active source.” Claim 4 should depend from claim 3. Also, claim 4 lacks antecedence for the “cathode” and the “wide” and “narrow” focus. Claims 12 and 13 also lack proper antecedence for “the radiation emission rate”, “the source”, and “the heating current”. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for adjusting a rate of emission of an x-ray radiation source, does not reasonably provide enablement for every and any source of radiation. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The specification is enabling for a source of radiation from an X-ray tube, but is not enabling, for example, for gamma, laser or neutron rays. Claims 1, 12 and 13 should therefor be restricted in scope to x-ray radiation.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 5-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. For example, the method of claim 1 does not recite a method with active steps, rather it lists various functions. Also, it is not clear if "this particular tube" is the tube of claim 2. It is not clear what methods are performed "in making readings". Also, the term "several" in claims 5-7 is a relative term which renders the claims indefinite. The term "several" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear if the reference is to the number or type of experiments conducted.

***Claim Rejections - 35 USC § 103***

7. Claims 1, 2, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Resnick (US 4,775,992).

8. Regarding Claims 1, 12 and 13, Resnick teaches a method for adjusting the emission rate of radiation of a source of radiation, computer program product having a program code therefor and a data carrier comprising a medium having embedded therein a computer program code therefor comprising: calibrating the radiation emission rate of the source as a function of a voltage applied between first and second emitting elements of the source and as a function of the heating current of the active source (Column 1, lines 14-28 and Column 3, lines 59-62);

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supplying the second element with high voltage relative to the first element (Column 1, lines 14-28 and Column 3, lines 59-62); and adjusting a heating current of the second element for an expected rate of radiation emission as a function of the calibration (Column 4, line 22- Column 5, line 43). The voltage is an exponential function of the emission rate and the heating current (Column 4, lines 31-61) and the heating current is represented by a damping function (Column 7, lines 13-60). Damping functions are known to be represented by the equation  $ax^2 + bx + c$ , which makes them second order polynomials.

9. Resnick fails to specifically teach the logarithm of the emission rate of radiation as equal to a second- order polynomial function of the heating current and a first-order polynomial function of the voltage.

10. However, exponential functions are also known to be the inverse of logarithms to base “e”. Logarithms are used to create graphical representations that are linear in nature and are more easily read from a graph than exponential curves.

11. Therefor it would have obvious to one of ordinary skill in the art at the time the invention was made to use the inverse of an exponential function, such that a logarithm to base “e” is used to represent the emission rate of Resnick in a linear and easily read format.

12. Regarding Claim 2, Resnick teaches the method according to claim 1 wherein: the source of radiation is an X-ray tube (Column 3); the first element is an anode of the tube; and the second element is a cathode of the tube (Column 1, lines 14-28 and Column 3, lines 59-62).

***Allowable Subject Matter***

13. Claims 3 and 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: Claims 3 and 4 contain allowable subject matter for at least the reason that the prior art of record fails to teach or fairly suggest the Neperian logarithm with coefficients as claimed. While utilizing one damping function is taught as above by Resnick, the use of two damping functions, as claimed, is not suggested by the prior art of record.

***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patent NL 1 489 377 is of interest for teaching logarithmic relationships between tube current and voltage (Page 1, lines 75-86 and Page 2, lines 13-59). Meccariello (US 4,703,496) is of interest for teaching heating current as exponentially related to the filament current and constants (Column 28, lines 51-55), but fails to teach relationships to real and calibrated currents. Mulleneers (US 3,983,396) is of interest for teaching compensation circuitry wherein currents are related to constants (Column 3, lines 14-42), though Mulleneers fails to associate those relationships to real and calibrated currents.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (571) 272-2495. The examiner can normally be reached on M-F, 9-5.

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17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Craig E Church

Craig E. Church  
Primary Examiner